

BRODSKIY, A.; RODIN, Yu.

Designing welded joints on prefabricated elements of panel buildings. Zhil. stroi. no.7:17-19 '62. (MIRA 15:9)

1. Rukovoditel' sektora svarki Tsentral'nogo nauchno-issledovatel'skogo instituta stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR (for Brodskiy). 2. Nachal'nik tekhnicheskogo upravleniya Glavnogo upravleniya po zhilishchnomu i grazhdanskому stroitel'stvu v g. Moskve (for Rodin).

(Building--Details)

BRODSKIY, A.; RODIN, Yu.

Improving the quality of the welding of joints of reinforced concrete elements. Na stroi.Ros. 3 no.8:34-36 Ag '62.

(MIRA 15:12)

1. Rukovoditel' sektora svarki laboratorii metallokonstruktsiy Tsentral'nogo nauchno-issledovatel'skogo instituta stroitel'-nykh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR (for Brodskiy). 2. Nachal'nik tekhnicheskogo upravleniya Glavnogo upravleniya po zhilishchnomu i grazhdanskому stroitel'-stvu v gorode Moskve Moskovskogo gorodskogo soveta deputatov trudyashchikhsya (for Rodin).

(Welding)

(Reinforced concrete)

VAKMAN, S.S., insht.; ROBIN, Yu.K., tekhn.

Low temperature welding of cast iron with a propane-butane-oxygen flame. Svar. proizv. no. 9:22-23 S '64. (MRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov.

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Indeterminacy in some problems of function theory. Proceedings of the Conference on Function Theory (Generalization of Functions) (Kiev), University, 1968. 50 pp. 5,000 copies printed.	
El. (Title page); A. I. Mikhlin; V. G. Romanov; L. N. Trefanov; Z. Yu. Vinogradov [Tech. Ed.]. The Institute of Mathematics of the Academy of Sciences of the Ukrainian SSR, Kiev, 1968.	
This book is intended for specialists in the theory of functions of complex variables, as well as for students of mathematics and mechanics who have mastered the basic concepts of mathematical analysis and differential equations. It may also be used by students of higher technical schools.	
The book contains 63 papers originally presented at the Conference on Function Theory (Generalization of Functions) (Bogolyubov's Colloquium of Analysts) (Kiev), University, from May 3 to June 2, 1968. The research presented in the papers is concerned with the theory of functions and their applications, boundary value problems, boundary and eigenvalue problems, the theory of functions of several variables, boundary and interpolation problems, the theory of functions of conformal mappings and boundary-value problems, the theory of functions of analytic variables, the theory of functions of generalized functions, the theory of functions of distributions, the theory of functions of entire functions, the theory of functions of bounded characteristic, the theory of functions of several complex variables, and the theory of functions of several real variables.	
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Card 9/9	7-320

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12

46(1) 16, 3500

SOV/20-129-6-10/69

AUTHOR: Rodin, Yu.L.

TITLE: Conditions for the Solvability of Riemann's and Hilbert's  
Boundary Value Problems on Riemannian Surfaces

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 6, pp 1234-1237 (USSR)

ABSTRACT: Let  $\Gamma$  be a curve on a closed Riemannian surface with genus p.  
Let  $\Gamma$  consist of finitely many closed smooth Jordan curves  
which do not intersect. Problem: Determine a piecewise analytic  
function  $\Phi(z)$  satisfying the condition

(6)  $\phi^+(t) = G(t) \cdot \phi^-(t)$

on  $\Gamma$ , where  $G(t)$  is an H-continuous function different from  
zero on  $\Gamma$  with the index  $\kappa = \frac{1}{2\pi} \Delta_{\Gamma} \arg G(t)$ .Theorem 1: (6) is always solvable for  $\kappa \geq p$ .  
If it is  $0 \leq \kappa \leq p - 1$ , then the solution is sought in the form

$$\phi^{\pm}(z) = F^{\pm}(z) f^{\pm}(z), \text{ where}$$

$$(*) F^{\pm}(t) = G(t)^{p-2\kappa} (t) F^{\mp}(t) \text{ and}$$

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Conditions for the Solvability of Riemann's SOV/20-129-6-10/69  
and Hilbert's Boundary Value Problems on Riemannian Surfaces

(\*)  $f^+ = P^{d\zeta-p}(z)$ ,  $f^-(z) \in \Gamma$ . Here  $P(z)$  is an analytic function in  $T^+ + \Gamma$  possessing only one zero of first order in  $P \in T^+$ ;  $T^+$  is the internal domain bounded by  $\Gamma$  of the Riemannian surface.  
Theorem 2 : For the solvability of (6) in the case  $0 \leq d \leq p - 1$  it is necessary and sufficient that (\*) possesses at least  $p - (d + r) + 1$  solutions, where  $r \geq 0$  is the largest integer for which  $\dim(D/P^r) = \dim(D)$ , where  $D$  is a particularly defined divisor.

The theorems 3 and 4 deal with the inhomogeneous problem

(10)  $\phi^+(t) = G(t)\phi^-(t) + g(t)$  and with the Hilbert boundary value problem.

The author mentions Yu.V. Sokhotskiy and I.N. Vekua. He thanks L.I. Volkovyskiy for the guidance of the paper. 

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Conditions for the Solvability of Riemann's and SOV/20-129-6-10/69  
Hilbert's Boundary Value Problems on Riemannian Surfaces

There are 7 references, 4 of which are Soviet, 1 German,  
1 Finnish, and 1 American.

ASSOCIATION: Permskiy gosudarstvennyy universitet imeni A.M. Gor'kogo  
(Perm State University imeni A.M. Gor'kiy)

PRESENTED: August 19, 1959 by I.N. Vekua, Academician

SUBMITTED: August 1, 1959

Card 3/3

67:

16(1) 1. 1000  
AUTHOR: Rodin, Yu.L.

SOV/20-130-1-5/69

TITLE: The Characteristic Functions of a Certain Integral Equation

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 23-25 (USSR)

ABSTRACT: On the closed Riemannian surface  $R$  let the domain  $T$  be bounded by  $\Gamma$ . Let  $A(\zeta, z)$  be an elementary function of first kind for  $T$ ; let it be covariant in  $\zeta$ , invariant in  $z$ , analytic in  $\zeta$  and  $z$  and let it have in  $T$  one single pole of first order with the residuum +1 in the point  $P[\zeta] = P[z]$ . (Compare [Ref 2]).  
Theorem 1: In order that a point system is identical with the set of singularities of  $A(\zeta, z)$  - with respect to  $z$  -, it is necessary and sufficient that there exists no covariant of first kind  $Z'(z)$  which vanishes in all points of the system. The theorem is used in order to develop a general theory of the system of differential equations

$$(3) \quad U_z = B(z)\bar{U},$$

where  $B^*(z^*) = B(z) \frac{dz}{dz^*}$  and  $z, z^*$  are local parameters.

Beside of (3) the author considers

$$(4) \quad U(z) + \frac{1}{\pi} \iint_T B(t) \bar{U}(t) A(t, z) dT = 0.$$

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The Characteristic Functions of a Certain Integral  
Equation

SOV/20-130-1-5/69

Theorem 2 asserts that if (3) has a solution  $U_0(z)$  regular in  $T$  which in a special manner can be continued analytically in  $R-T$ , then the equation (4) is solvable. Here  $U_0(z)$  is an eigenfunction of (4),  $\lambda = \frac{1}{\pi}$ .

The author mentions S.Ya.Gusman, and I.N.Vekua. He thanks Professor L.I.Volkovskiy.

There are 6 references, 4 of which are Soviet, 1 German, and 1 American.

ASSOCIATION: Permskiy gosudarstvennyy universitet imeni A.M.Gor'kogo  
(Perm State University imeni A.M.Gor'kogo)

PRESENTED: August 19, 1959, by I.N.Vekua. Academician

SUBMITTED: August 1, 1959

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81697  
S/020/60/132/05/18/069

16.3000

AUTHOR: Rodin, Yu. L.

TITLE: Riemann's Problem on Closed Riemannian Surfaces /6

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 5,

pp. 1038-1040

TEXT: The paper is based on the results of the former publication (Ref.3) of the author. Let  $R$  be a closed Riemannian surface with genus  $p$ ; let the contour  $\Gamma$  limit the bounded connected domain  $T^+$ ; let  $T^-$  be the complement of  $T^+$  on  $R$ . The Riemannian boundary value problem

$$(1) \quad \phi^+(t) = G(t) \phi^-(t)$$

is considered (see (Ref.3)). As the conjugate problem to (1) it is denoted: Find linear differentials  $\psi^\pm(z)$  which are analytic in  $T^+$  or  $T^-$  and which satisfy the boundary condition

$$(2) \quad \psi^+(t) = \frac{1}{G(t)} \psi^-(t)$$

Card 1/4

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S/020/60/132/05/18/069

Riemann's Problem on Closed Riemannian Surfaces

Theorem 1: The problem (1) with the index  $x$  has  $x - p + 1$  solutions if  $x > 2p - 2$ ; the number of the solutions can vary between  $x - p + 1$  and  $x + 1$ , if  $p \leq x \leq 2p - 2$ ; it can vary between 0 and  $x + 1$ , if  $0 \leq x \leq p - 1$ . For  $x < 0$  the problem is unsolvable.

Theorem 2: The difference of the numbers  $K$  and  $\tilde{K}$  of the solutions of (1) and (2) is  $x - p + 1$ .

Theorem 3: For the solvability of the inhomogeneous problem

$$(3) \quad \phi^+(t) = G(t) \phi^-(t) + g(t)$$

it is necessary and sufficient that

$$(4) \quad \int_{\Gamma} g(t) \psi_k(t) = 0 \quad (k = 1, 2, \dots, \tilde{K})$$

where  $\psi_k$  is the complete system of the solutions of (2).

Theorem 4 contains similar statements on the Hilbert problem

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S/020/60/132/05/18/069

Riemann's Problem on Closed Riemannian Surfaces

$$(6) \quad \operatorname{Re} [(a - ib) F(t)] = c(t)$$

treated in (Ref.3).

Then the author gives a generalized formulation of the Riemannian problem: Let  $\Delta$  be a given divisor,  $\operatorname{ord} \Delta = n$ ; find the differentials  $\omega_v^{\pm}(z)$  with dimension  $v$  which are analytic in  $T^{\frac{1}{2}}$  and which satisfy the boundary condition

$$(10) \quad \omega_v^+(t) = G(t) \omega_v^-(t), \quad (\omega_v) + \Delta \geq 0$$

$$(13) \quad \gamma_{-v+1}^+(t) = \frac{1}{G(t)} \gamma_{-v+1}^-(t), \quad (\gamma_{-v+1}) - \Delta \geq 0,$$

is denoted as the conjugate problem.

Theorem 5: The difference of the numbers of the solutions of (10) and  $\checkmark$

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Riemann's Problem on Closed Riemannian Surfaces  
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S/020/60/132/05/18/069

(13) is  $x + (2v - 1)(p - 1) + \text{ord } \Delta$ , where  $x = \text{ind } G$ .  
Theorem 6 is the generalization of theorem 3.

J. N. Vekua is mentioned in the paper. The author thanks Professor  
L. J. Volkovyskiy for the guidance.

There are 4 references: 3 Soviet and 1 American.

ASSOCIATION: Ferm'skiy gosudarstvennyy universitet imeni A.M.Gor'kogo  
(Perm State University imeni A. M. Gor'kiy)

PRESENTED: February 18, 1960, by J. N. Vekua, Academician

SUBMITTED: February 1, 1960

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Card 4/4

RODIN, Yu. L., Cand Phys-Math Sci -- "Marginal problem of  
Riman <sup>surfaces</sup> closed Riman ~~areas~~ and the application thereof."  
Rostov n/D, 1961. (Rostov State U) (KL, 8-61, 228)

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16-3000

30841  
S/044/61/000/008/010/039  
C111/C333

AUTHOR: Rodin, Yu. L.

TITLE: Boundary value problems of the theory of analytic functions on Riemannian surfaces with finite genus

PERIODICAL: Referativnyy zhurnal, Matematika, no. 8, 1961, 15, abstract 8B62. ("Issled. po sovrem. probl. Teorii funktsiy kompleksn. peremennogo" M., Fizmatgiz, 1960, 436-442)

TEXT: On a closed Riemannian surface  $R$  with genus  $p$  the contour  $\Gamma$  consisting of  $m+1$  simple smooth closed curves  $\Gamma_j$  is given which subdivides  $R$  into the domains  $T_j^+$ . The author investigates the integral of Cauchy type

$$F(z) = \frac{1}{2\pi i} \int_{\Gamma} A(z, \zeta) \Psi(\zeta) d\zeta, \quad (1)$$

where the density  $\Psi(\zeta)$  satisfies the Hölder condition. The formulas of Sokhotskiy are obtained for the boundary values of (1) on the

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S/044/61/000/008/010/039  
C111/C333

Boundary value problems of the . . . contour. The Riemannian boundary value problems (homogeneous and inhomogeneous

$$\phi^+(t) = g(t) \phi^-(t) + g(t), t \in \Gamma$$

are investigated on the basis of these formulas. The Hilbert boundary value problem

$$\operatorname{Re} [(a - ib) F(t)] = 0, t \in \Gamma \quad (2)$$

is reduced to the problem (1) on the double of the surface. The results of the enumeration of the number of linearly independent solutions of the problems (1) and (2) contain an error which was corrected by the author in a note added in proof in accordance with his later investigations (R Zh Mat, 1960, 11512).

[Abstracter's note: Complete translation.]

Card 2/2

GUSMAN, S.Ia.; RODIN, Yu.I.

Kernel of a Cauchy type integral on closed Riemann surfaces. Sib.  
mat. zhur. 3 no.4:527-531 Jl-Ag '62. (MIRA 15:7)  
(Integrals, Generalized) (Riemann surfaces)

34472  
S/020/62/142/004/009/022  
B112/B102

16.3000

AUTHOR: Rodin, Yu. L.

TITLE: Integrals of the Cauchy type and boundary value problems for generalized analytic functions on closed Riemannian surfaces

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 4, 1962, 798-801

TEXT: A differential equation  $U_z = B(z)\bar{U}$  is considered in a finite region  $T$  of a closed Riemannian surface  $R$  with  $p > 2$ . This differential equation is equivalent to the integral equation

$$U(z) + \frac{1}{\pi} \int_{\bar{T}} B(t)\bar{U}(t)A(t,z)dt = \phi(z).$$

A new kernel

$$A(t,z) = \tilde{A}(t,z) - \sum_{j=1}^{p-1} z_j'(t)\tilde{A}(t_j, z)$$

is introduced, where the Abelian covariants  $z_j'(t)$  of first kind satisfy the

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S/020/62/142/004/009/022  
B112/B102

Integrals of the Cauchy type...

conditions  $Z_j'(t_i) = z_{ij}$  and

$$U(z) + \frac{1}{\pi} \iint_T B(t) \overline{U(t)} A(t, z) dT = 0.$$

According to I. N. Vekua (Obobshchennyye analiticheskiye funktsii - Generalized analytic functions, M., 1959), kernels of the Cauchy type are constructed, which satisfy the equations

$$\left. \begin{aligned} \Omega_1(t, z) + \frac{1}{\pi} \iint_T B(\tau) \overline{\Omega_2(t, \tau)} A(\tau, z) dT &= A(t, z), \\ \Omega_2(t, z) + \frac{1}{\pi} \iint_T B(\tau) \overline{\Omega_1(t, \tau)} A(\tau, z) dT &= 0; \\ \Omega_1(t, z) + \frac{1}{\pi} \iint_T \overline{B(\tau)} \Omega_2(\tau, z) A(t, \tau) dT &= A(t, z), \\ \Omega_2(t, z) + \frac{1}{\pi} \iint_T B(\tau) \overline{\Omega_1(\tau, z)} \overline{A(t, \tau)} dT &= 0. \end{aligned} \right\} \quad (6)$$

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Integrals of the Cauchy type...

S/020/62/142/004/009/022  
B112/B102

It is demonstrated that the boundary value problem

$$U^+(t) - U^-(t) = g(t) \text{ on } \Gamma,$$

where  $\Gamma$  is the contour of  $T$  (the superscripts + and - refer to the regions  $T^+ = T$  and  $T^- = R - T$ , respectively), is solvable then and only then if the conditions

$$\operatorname{Im} \int_{\Gamma} g(t) V_j^0(t) dt = 0 \quad (j = 1, 2, \dots, k,)$$

are fulfilled, where the  $V_j^0$  constitute a basis of the generalized covariants of first kind. Three similar theorems are proved. There are 8 Soviet references.

ASSOCIATION: Permskiy politekhnicheskiy institut (Perm' Polytechnic Institute)

PRESENTED: September 22, 1961, by I. N. Vekua, Academician

SUBMITTED: February 24, 1961  
Card 3/3

~~VEKUA~~, Yu.L.

Algebraic theory of generalized analytic functions on closed  
Riemann surfaces. Dokl. AN SSSR 142 no.5:1030-1033 F '62.  
(MIRA 15:2)

1. Permskiy politekhnicheskiy institut. Predstavлено akademikom  
I.N.Vekua.

(Functions, Analytic)  
(Riemann surfaces)

45303-66 EWT(d)/T IJP(c)  
ACC NR: AR6015987

SOURCE CODE: UR/0044/65/000/011/B061/B061

AUTHORS: Merzlyakova, G. D.; Rodin, Yu. L.

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B

TITLE: Riemann boundary value problem for vector-functions

SOURCE: Ref. zh. Matematika, Abs. 11B273

REF SOURCE: Uch. zap. Permsk. un-t, no. 103, 1963, 46-48

TOPIC TAGS: boundary value problem, complex function, complex variable, analytic function

ABSTRACT: On the closed Riemann surface  $R$  of type  $p$  consider the vectors  $dZ$  whose components  $dZ_1, \dots, dZ_n$  are meromorphic differentials of fixed order. A differential of order  $\mu$  is called differential of first type if for  $\mu \geq 0$  it has no poles and for  $\mu < 0$  it has no zeros.  $dZ$  is called a vector-differential of first type if all its components are of first type. Let  $D(D_1, \dots, D_n)$  be a vector-divisor on  $R$ . We say that  $dZ \geq D$  if  $dZ_j \geq D_j$  ( $j = 1, \dots, n$ ). The authors consider the space  $M$  of vectors, briefly  $D$ . The space  $N$  of vectors  $d\psi (d\psi_1, \dots, d\psi_n)$  is called conjugate to  $M$ ; here  $d\psi_j$  is of order  $1 - \mu$  and  $\mu$  is the order of  $dZ_j$ . Using the theorem of Riemann-Roch and the matric analog of the kernel of Benke and Shtein, the authors obtain the

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UDC: 517.948.32:517.544

L 45303-66

ACC NR: AR6015987

following results: 1)  $k - k' = x + m + \sum_{\mu} K_{\mu} (2\mu - 1)(p - 1)$ , where  $k$  is the number of solutions of the problem  $\bar{\Phi}^+ = G \bar{\Phi}^- + g$  for  $g \in 0$ ,  $k'$  is the number of solutions of the conjugate problem  $d\Psi^+ = [G']^{-1} d\Psi^-$ ,  $x = \text{ind} \det G$ ,  $m = \text{ord } D$ ,  $K_{\mu}$  is the number of components of order  $\mu$  of the desired vector; 2) necessary and sufficient conditions for solvability of the Riemann problem are:  $\int_{\Gamma} g'(t) d\Psi^{+(k)} = 0$ ,  $k = 1, 2, \dots$  where  $d\Psi^{+(k)}$  is the basis of the solutions of the conjugate problem. There are no proofs. Reading is also difficult because of misprints in the text and in formulas (1), (3), (4), (7), (9), (11). E. Zverovich [Translation of abstract]

SUB CODE: 12

Card 2/2 mjs

RODIN, Yu.L.

Algebraic theory of systems of first-order elliptic differential equations. Dokl. AN SSSR 150 no.6:1228-1231 Je '63. (MIRA 16:8)

1. Predstavлено академиком I.N.Vekua.  
(Differential equations)

RODIN, Yu. M.

RODIN, Yu.M.

For a further increase in the quality of construction. Gor.khoz.Mosk.  
(MLRA 10:9)  
31 no.9:7-9 S '57.

1. Nachal'nik Tekhnicheskogo upravleniya Glavmosstroya.  
(Construction industry)

RODIN, Yu. M.

For high quality and cultural organization of building. Gor. khoz.  
Mosk. 32 no.4:4-5 Ap '58. (MIRA 11:4)

1. Nachal'nik Tekhnicheskogo upravleniya Glavmosstroya.  
(Moscow—Building)

PROMYSLOV, Vladimir Fedorovich; RODIN, Yu.M., inzh., nauchnyy red.; UDOD,  
V.Ya., red.izd-va; GILENSEN, P.G., tekhn.red.

[Industrialized housing construction in Moscow] Industrializatsiya  
zhilishchnogo stroitel'stva Moskvy. Moskva, Gos.izd-vo lit-ry po  
stroit., arkhit. i stroit.materiam, 1959. 223 p. (MIRA 12:12)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR  
(for Promyslov).  
(Moscow--Precast concrete construction)

MERKLING, M.I., inzh.; RODIN, Yu.M., inzh., nauchnyy red.; CHEKHOVSKAYA, T.P., red. izd-va; OSENKO, L.M., tekhn. red.

[Organization of supplies at construction sites] Organizatsiya skladskogo khoziaistva na stroitel'nykh ploshchadkakh. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 82 p. (MIRA 14:10)

1. Moscow. Glavnoye upravleniye po zhilishchnomu i grazhdanskому stroitel'stvu. Tekhnicheskoye upravleniye.  
(Building sites)

ACC NR: AT6036615

SOURCE CODE: UR/0000/66/000/000/0294/0295

AUTHOR: Ovechkin, V. G.; Nikulina, G. A.; Rodin, Yu. M.

ORG: none

TITLE: Problem of the effect of hormone preparations on the organism's resistance to accelerations [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 294-295

TOPIC TAGS: space medicine, space physiology, acceleration tolerance, hormone, mouse, corticosteroid, biologic acceleration effect

ABSTRACT:

The effects of various hormonal preparations on the resistance of guinea pigs, rats, and mice to radial accelerations were studied. Tests were conducted on a small centrifuge. The animals were exposed to 20 G in a head-pelvis direction for 1.5–2.0 min. The following preparations were used: Desoxycorticosteroneacetate (DOCA); hydrocortisone; methyl-androstendiol-dipropionate; and somatotropic hormone (STH) extracted

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ACC NR: AT6036615

from hypophyses.

It was found that the hormonal preparations had different effects. DOCA noticeably lowered the resistance of animals to acceleration. Otherwise, in tests on rats it was found that hydrocortisone and methyl-androstendiol-dipropionate increased the resistance of animals to accelerations. The most effective preparation was STH. An intraperitoneal injection of this hormone sharply increased the resistance of animals to acceleration.

These data help in understanding the mechanism of the action of acceleration on the organism as well as in planning means of altering the reactivity of the organism to increase its resistance to accelerations.

[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 2/2

ROBIN, Yakov Nikolayevich

Intravenous (geksenalovyy) narcosis and the application of it in the combination  
with some other substance in medicine.

Dissertation for candidate of a Medical Science Degree.  
(voyenfak) Saratov Medical Institute, 1947

PARHON-STEFANESCU, Constanta; RODIN, Z.; MICLEA, Elena; HUHULEA, Teodora;  
MIHAI, Elena.

Considerations on the relation between endocrine diseases and as-  
thenic neurosis. Stud. cercet. endocr. 14 no.4/5/6:579-584 '63.

PRINTSEVA, inzh.; RODINA, inzh.; DENISOVA, inzh.; VINOGRADOV, K.A., kand.  
sel'skokhozyaystvennykh nauk; KORZHEV, M.P., arkitektor

Preserving forests in areas designated for housing construction.  
Gor. khoz. 33 no.7:29-30 Jl '59. (MIRA 12:10)

1.Gorprojekt, g.Pezm' (for Printseva, Rodina, Denisova). 2.Rukovoditel' sektora ozeleneniya gorodov Akademii kommunal'nogo khozyaystva  
(for Vinogradov).

(Forests and forestry)

## PHASE I BOOK INFORMATION

SOT/4617

Akademiya Nauk SSSR. Kibernetika po analiticheskoy khimii.

Akademiya Nauk SSSR. Kibernetika po analiticheskoy khimii. (Series: Itogi Nauki i Tekhniki, Tom 10) Zvezda. Slip inserted. 10,000 copies printed.

Sponsoring Agency: Akademija Nauk SSSR. Institut Organicheskoy i neorganicheskoy khimii. Izdatelstvo Nauk. V.I. Vernadskogo. Kibernetika po analiticheskoy khimii.

Reprint Series: A.P. Vloogdner; Academician I. Yu. Rabinovitch; Tech. Ed. r. V.Y. Brusilov.

PURPOSE: This book is intended for laboratory personnel concerned with gas analysis in metals.

CONTENTS: This collection of articles is based on materials of the Commission on Analytical Chemistry of USSR on problems dealing with gas analysis in metals. The article present date on 1) The new technique method, developed by European scientists and the series scientists N.P. Chubinskaya and T.S. Klyuchnikova for the analysis of elements iron and aluminum, and more applicable to analysis of gases in other metals; 2) the research of L.M. Chernovskaya and co-workers at the Institute of Geochemistry and Analytical Chemistry Izdat. V.I. Vernadskogo as USSR. Hence making it possible to evaluate the practicability and field of application of the different analytical methods; 3) The contributions of V.L. Kurnikova and co-workers in their study of thermodynamic methods for the evaluation of suitable conditions for carrying out analysis; 4) The determination of hydrogen in metals by the sulfuration method as developed by A.N. Babkin; 5) The spectra of transition metal for the determination of hydrogen as developed by A.M. Zvezdin; and others. The synthesis of these articles systematic and review critically various analytical methods describe the apparatus used in analysis, and indicate the basic trend of research. References accompany most of the articles.

Part I. Gas Analysis - Gas Chromatograph. Determination of Gases in Metals by the Internal Friction Method

215

Burashova, N.M. Investigation of the Gas Chromatograph Method According to the Separation Curves

225

Rodina, A.A. Study of the "Electro Absorption" of Hydrogen by Some Metals

238

Abramov, M.B. [Urgunsky] Optical Spectrometer - French Branch of the State Institute for Design and Planning of Petroleum Machinery, Ankara. The Problem of the Hydrogen Effect on Steelized Petrol

245

## III. APPARATUS FOR GAS ANALYSIS IN METALS

Dobrovolskaya, Z.M. [Institute of Geochemistry and Analytical Chemistry Izdat. V.I. Vernadskogo] Al. USSR. Moscow. Apparatus for Gas Analysis in Metals by the Vacuum-Purification Method

255

Chernova, T.A., V.V. Klyuchnikova, and N.S. Lutchenko. [Central Scientific Research Institute of Ferrous Metallurgy, Moscow]. Control of the Operation of Apparatus for Gas Analysis in Metals

267

Rogozin, V.A., A.N. Zvezdin, and A.A. Babkin. [Institut Organicheskoy i Neorganicheskoy Khimii, and V.I. Vernadskogo]. Unit for the Spectro-Spectrograph Combination of Hydrogen in Metals

270

Polyakova, O.B. Chamber with Electrode Holders for the Determination of Gases in Metals

278

Skrinster, S.M. [Institute of Metalurgy Izdat. V.I. Vernadskogo]. Unit for Determination of Strength in Metals by the Radiation Spectrom Method Under the Condition of a Decreased Low Voltage Spark

281

Osanova, V.T. [Central Scientific Research Institute of Ferrous Metallurgy, Moscow]. Chamber for Spectral Analysis of Gases in Metals and Alloys

290

Vorotnikov, A.M. Universal Unit for Saturation of Metals With Gases and for Hydride Analysis

297

Aviation Library of Congress  
Card 9/9

Aviation  
Library  
of Congress

2/6/61

RODINA, A.A.

"Electrical absorption" of hydrogen by some metals. Trudy kom.  
anal.khim. 10:238-244 '60. (MIRA 13:8)  
(Hydrogen) (Metals--Hydrogen content)

SOV/120-58-4-17/30

AUTHORS: Rodin, A. N., Vorob'yev, S. P. and Rodina, A. A.  
TITLE: Measurement of the Amount of Deuterium Absorbed by Cathodes  
in a Gas Discharge (Izmereniye kolichestva deyteriya,  
pogloshchayemogo katodami, v gazovom razryade)  
PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 4, pp 78-82  
(USSR)

ABSTRACT: It is well known that when metals are bombarded by ions  
the ions may penetrate into the body of the metal and accumu-  
late in it. This method has been studied mainly in the case  
of penetration of ions of inert gases from the ion beams of  
mass separators (Refs 1-3). A similar effect of "electric  
absorption" of gas is observed at the cathodes of gas dis-  
charge tubes. A study of this effect is difficult because  
under the conditions of gas discharges various other processes  
are possible which lead to additional absorption (Refs 4-8).  
In the present paper the absorption of deuterium by the  
cathodes of a magnetic discharge manometer (Ref 9) is dis-  
cussed. Deuterium has been used because it is rare, while  
hydrogen is contained in appreciable amounts in the majority  
of metals. The apparatus is illustrated diagrammatically in  
Fig 1. The apparatus consists of a glass chamber into which  
two plane cathodes (2) are placed. A ring anode is fixed

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SOV/120-58-4-17/30

Measurement of the Amount of Deuterium Absorbed by Cathodes in a Gas  
Discharge

half way between the cathodes. The assembly is placed between the poles of an electromagnet as shown in Fig.1. The cathodes are made of thin molybdenum and the material under investigation is attached to them in the form of thin plates 500 mm<sup>2</sup> in area. The ionisation current at a given voltage is varied by altering the pressure in the tube or by adjusting the magnetic field. The deuterium is admitted from a flask, 9, (Fig 1). The temperature of one of the cathodes is measured by means of a thermocouple. The deuterium absorbed by the cathodes is measured by heating the cathodes in a separate vacuum chamber and the emitted gas is analysed in a mass spectrum. Curves are given of the amount of deuterium absorbed by beryllium cathodes as a function of time, potential difference and ionisation current. Using this method, 10<sup>-8</sup> g of deuterium may be detected with an accuracy of  $\pm 5\%$  when the deuterium content is above 1  $\mu\text{g}$ . L. Ye. Levina is

Card 2/3

SOV/120-58-4-17/30

Measurement of the Amount of Deuterium Absorbed by Cathodes in  
a Gas Discharge

thanked for assistance in working out the method of mass  
spectrum analysis. There are 6 figures, 1 table and  
13 references, of which 6 are Soviet, 1 Swedish and 6  
English.

SUBMITTED: September 15, 1957.

Card 3/3

RODINA, A.A.; DORONICHEVA, N.I.

Unit for the production of hydrogen with a high degree of purity. Khim prom. 41 no. 12:902-904 D '65

(MIRA 19:1)

RODINA, A.A. (Moskva)

Absorption of deuterium by aluminum cathodes in a gaseous  
discharge. Zhur.fiz.khim. 35 no.8:1657-1660 Ag '61.

(MIRA 14:8)

(Deuterium)  
(Electric discharges through gases)

L 30248-66 EWP(k)/EWT(d)/EWT(m)/EWP(h)/EWP(i)/EWP(v)/EWP(t)/ETI IJP(c) WW/JW/JD  
ACC NR: AP6013811 SOURCE CODE: UR/0064/65/000/012/0022/0024

48  
B

AUTHOR: Rodina, A. A.; Doronicheva, N. I.

ORG: none

TITLE: Apparatus for the preparation of high-purity hydrogen

SOURCE: Khimicheskaya promyshlennost', no. 12, 1966, 22-24

TOPIC TAGS: hydrogen, gas filter, palladium, palladium alloy, silver alloy

ABSTRACT: A device which produces high-purity hydrogen by filtration through a diaphragm of pure palladium or its alloys is described. A diagram of the device is shown in fig. 1. Figure 2 shows the dependence of the output of the device on the entrance pressure at a constant exit excess pressure of 1 tech. atm at various temperatures. At 550°C and P=5 tech. atm, the output of pure hydrogen was 35 l/hr or 440 cm<sup>3</sup>/hr from 1 cm<sup>2</sup> of the surface of the diaphragm (which consisted of an alloy of 70% Pd and 30% Ag and was 0.1 mm thick). No oxygen or nitrogen impurities were found in the hydrogen produced (the sensitivity of the analytical apparatus was 10<sup>-7</sup>). The dew point of the hydrogen was below -60°C, which corresponded to a moisture content of 10 mg/m<sup>3</sup>. Orig. art. has: 3 figures.

UDC: 661.96.002.65.05

Card 1/2

RODINA, A.A. (Moskva)

Penetration of deuterium ions into zirconium during an electric  
discharge through gases. Zhur.fiz.khim. 35 no.8:1661-1665  
Ag '61. (MIR 14:8)

(Deuterium)

(Electric discharge through gases)

(Zirconium)

26541

S/076/61/035/008/001/016

B101/B218

187530

AUTHOR: Rodina, A. A. (Moscow)

TITLE: Adsorption of deuterium by aluminum cathodes in gaseous discharge

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 8, 1961, 1657 - 1660

TEXT: The author studies the penetration of low-energy deuterons (500 - 5000 v) into aluminum in low-pressure gaseous discharge. An apparatus was used with unfavored electric discharge at cold cathodes in a strong magnetic field. It allowed a considerable density of the ion current (some hundred  $\mu\text{a}/\text{cm}^2$ ) at low gas pressure ( $10^{-1}$  -  $10^{-4}$  mm Hg) and a wide-range energy variation of the ions bombarding the cathode. Two 25•25•0.5-mm aluminum platelets served as cathodes, an annular molybdenum-wire anode being mounted between them. The magnetic field (500-2000 oersteds) was perpendicular to the plane of the electrodes. The amount of the adsorbed deuterium was determined by mass-spectrometric analysis of the gas that was liberated in a special apparatus when the

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26541

S/076/61/035/008/001/016

B101/B218

Adsorption of deuterium by...

cathode was vacuum-heated. This method has already been described (A. M. Rodin, S. P. Vorob'yev, A. A. Rodina, Pribory i tekhn. eksperim. no.4, 78, 1958). Previous experiments showed that the total amount of D<sub>2</sub> is liberated only after melting of Al. It is assumed that before melting of the metal the deuterium adsorbed on the boundaries of the crystal grains and in the lattice defects is liberated, and after melting also the D<sub>2</sub> that has penetrated into the lattice. The observed adsorption of D<sub>2</sub> is ascribed to the penetration of fast ions into the metal, and not to a thermal adsorption. Control experiments showed that the heating of aluminum platelets without discharge in D<sub>2</sub> atmosphere (0.2 mm Hg, 160°C) only leads to a monomolecular adsorption on the surface (0.06 of D<sub>2</sub> per cathode). Under the action of discharge the following was found:  
1) Adsorption begins only some time after the discharge has been switched on. For 500 v, 5 ma, the following adsorption of D<sub>2</sub> in per cathode is given: after 6 hr - 0.04-0.05, after 9 hr - 1.09, and after 33 hr - 1.45 .

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26541

S/076/61/035/008/001/016

B101/B218

Adsorption of deuterium by...

The results for 4000 v, 1 ma are shown in the figure. 2) The delay of adsorption is shortened by heating the cathode or increasing the discharge current. 3) D<sub>2</sub> adsorption sets in as soon as the passivating oxide layer is destroyed by the ion bombardment. When exposed to humid air cathodes which have adsorbed considerable quantities of D<sub>2</sub> are covered with an ever thicker becoming loose layer of Al<sub>2</sub>O<sub>3</sub>. This does not occur if only small quantities of D<sub>2</sub> (< 1γ) were adsorbed. 4) By etching of the cathodes it was found that the metal layer into which D<sub>2</sub> penetrates is not thicker than 0.1μ. From this follows a concentration of D<sub>2</sub> of 10<sup>4</sup> cm<sup>3</sup> per 100 g of metal, and an atomic ratio D:Al > 0.5. The diffusion coefficient was not higher than 10<sup>-15</sup> cm<sup>2</sup>/sec. There are 1 figure, 3 tables, and 10 references: 5 Soviet and 5 non-Soviet. The reference to English-language publication reads as follows: C. E. Ransley, J. Inst. Metals, 74, 599, 1948.

X

Card 3/4

RODINA, A.A.; DORONICHEVA, N.I.

Effect of nitrogen and oxygen impurities on the sorption of  
hydrogen by titanium-molybdenum alloys. Zhur. fiz. khim. 38  
no.10:2469-2472 O '64. (MIRA 18:2)

L 19631-65 EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EPR/T/EWP(t)/EWP(b) Pr-4/  
Pa-4/Pu-4 ASD(m)-3/AFWL/AEDC(a)/IJP(c) JD/JG

ACCESSION NR: AP4047986

S/0076/64/038/010/2469/2472

AUTHOR: Rodina, A. A.; Doronicheva, N. I.

TITLE: Effect of nitrogen and oxygen impurities on the hydrogen sorption of titanium-molybdenum alloys

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 10, 1964, 2469-2472

TOPIC TAGS: sorption, hydrogen sorption, gas sorption, titanium alloy, molybdenum containing alloy

ABSTRACT: The effect of nitrogen and oxygen impurities on the hydrogen sorption of titanium-molybdenum (50 wt% Mo) alloys has been investigated. Tests were conducted at room temperature with pre-activated alloy (outgassed in vacuum at 800°C) and hydrogen under a pressure of 400—500 mm Hg. After each test the specimens were outgassed. The experiment showed that pure hydrogen can be repeatedly absorbed (up to 300—400 cm<sup>3</sup>/g) and released by the alloy without decreasing its sorption capacity. However, commercial-grade hydrogen (containing about 0.3% vol% O<sub>2</sub> + N<sub>2</sub>) was absorbed in smaller quan-

1/2

L 19631-65

2

ACCESSION NR: AP4047986

tities (about 40 cm<sup>3</sup>/g), and only after the alloy was preactivated by absorption of pure hydrogen and outgassed. Oxygen, even at a low content (0.1 vol%), reduces considerably the sorption capacity of the alloy. Once the alloy has absorbed hydrogen with an oxygen content of 1%, the sorption capacity of the alloy for pure hydrogen can never be restored completely. Nitrogen also reduces hydrogen sorption capacity, but only at contents higher than 1%. Unlike oxygen, nitrogen has no permanent effect on the pure-hydrogen sorption capacity of the alloy. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 30Sep63

ENCL: 00

SUB CODE: MM

NO REF SOV: 001

OTHER: 001

Card 2/2

L 33333-66 E.I.(r)/E.P.(r)/E.I.I. L.I.P.(c) ID/WW/DM/EM  
ACC NR: AP6021773 SOURCE CODE: UR/0413/66/000/012/0032/0033

INVENTOR: Rodina, A. A.; Ul'yanov, E.; Doronicheva, N. I.

JRG: none

TITLE: Purification of hydrogen. Class 12, No. 182698

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 32-33

TOPIC TAGS: hydrogen, purification, palladium, silver, silver palladium diaphragm

ABSTRACT: An Author Certificate has been issued for a method of hydrogen purification involving filtration through heated palladium-silver-alloy diaphragms. To intensify the process and to increase the strength of the diaphragms, the method provides for the addition of 5—10% nickel to the alloy. [B0]

SUB CODE: 07/ SUBM DATE: 19Jul65/ ATD PRESS: 5026

Card 1/1 UCR

UDC: 661.965

39  
B

187530

26542

S/076/61/035/008/002/016  
B101/B218

AUTHOR: Rodina, A. A. (Moscow)

TITLE: Penetration of deuterium ions into zirconium under the action of gaseous discharge

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 8, 1961, 1661 - 1665

TEXT: In the introduction, the many publications on bombarding of metal surfaces by ions are mentioned. Thereafter, adsorption of D<sub>2</sub> by zirconium

cathodes in gaseous discharge is dealt with. Deuterium was chosen since hydrogen can never be completely removed from both metal and vacuum and thus causes errors. An apparatus with unfavored electric discharge, cold cathodes, and strong magnetic field was used. Such conditions allowed a considerable ion current at low gas pressure ( $10^{-1} - 10^{-4}$  mm Hg) and a wide-range energy variation of the bombarding ions. A 40- $\mu$  thick Zr foil (radius 14 mm) which was soldered on a molybdenum plate served as cathode. The amount of adsorbed D<sub>2</sub> was determined by quantitative mass-spectrometric

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S/076/61/035/008/002/016  
B101/B218 X

Penetration of deuterium ions...

analysis of the gas separated from Zr at 1000°C. Method and apparatus have already been described (A. M. Rodin, S. P. Vorob'yev, A. A. Rodina, Pribory i tekhn. eksperim., no.4, 78, 1958). The following results are given: Without discharge, no adsorption of D<sub>2</sub> occurred. In discharge, adsorption increased linearly up to an atomic ratio D : Zr~1.8. Adsorption rate was 3-5 μ/hr.cm<sup>2</sup> for 500 v, and 15-20 μ/hr.cm<sup>2</sup> for 3000 v. In short discharge, D<sub>2</sub> is distributed in Zr within a sharply defined layer which becomes thicker with longer-lasting discharge. The maximum concentration of D<sub>2</sub> is found in a depth of about 1 μ below the bombarded surface. Since the path of 500-ev deuterons in Zr is shorter than 1 μ the author assumed a partial reverse separation of D<sub>2</sub> into the discharge space which could be verified experimentally. In Zr, partially saturated with D<sub>2</sub>, and stored at room temperature D<sub>2</sub> diffuses from the zone of maximum concentration into Zr. The diffusion coefficient was found to be (3.6 ± 0.9).10<sup>-14</sup>. Alternating

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 S/076/61/035/008/002/016  
 B101/B218

Penetration of deuterium ions...

discharges on the cathode in  $D_2$  and  $H_2$  atmosphere confirmed the partial reverse separation of the adsorbed  $D_2$  into the vacuum. The following data are given:

Duration of discharge, hr		Conditions of discharge		The cathodes contained:							
				After discharge in $D_2$		Freshly mounted after discharge in $H_2$		After discharge in $D_2$ and $H_2$			
in $D_2$	in $H_2$	v	ma	$D_2$	$H_2$	$D_2$	$H_2$	$D_2$	$H_2$		
19	16	500	5	23.6	5.8	1.38	24.2	21.5	39		
6	3	3000	1	140	8.5	1.42	114	114	132.7		

The author also studied the distribution of  $D_2$  and  $H_2$  in Zr after alter-

Card 3/5

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S/076/61/035/008/002/016

B101/B218

X

Penetration of deuterium ions...

nating discharges in  $D_2$  and  $H_2$  atmosphere. Table 3 presents the results. The data for discharge in  $D_2$  only, given for comparison, show that by alternating discharges in  $D_2$  and  $H_2$  the 2 isotopes diffuse deeper into Zr. Thus, the diffusion rate of hydrogen is higher in partially hydrogenated zirconium than it is in pure metal. There are 3 figures, 3 tables, and 24 references: 9 Soviet and 15 non-Soviet. The four most recent references to English-language publications read as follows: D. Alpert, J. Appl. Phys., 24, 273, 1953; R. J. Herb et al., Phys. Rev., 89, 897, 1953; M. Gryzinski, Phys. Rev., 107, 1471, 1957; J. A. Brinkman, J. Appl. Phys., 25, 961, 1957.

SUBMITTED: May 5, 1959

Table 3. Distribution of  $D_2$  and  $H_2$  within a zirconium cathode in alternating discharge in these gases. Legend: 1) Conditions of discharge; a) t, hr; 2) order of discharge; b) first; c) then; 3) thickness of the corroded layer,  $\mu$ ; 4) separated gas, %; 5) remainder of gas after etching, %;

Card 4/5

RODINA, A.A.

Templet for controlling chamfers. Stan. i instru. 36 no.1840 Ja '65.  
(MIRA 18:4)

L 24521-66 EWT(m)/EWA(d)/EWP(t) IJP(c) JD/WW/JW/JXT(CZ)

ACC NR: AP6005281

SOURCE CODE: UR/0413/66/000/001/0023/0023

INVENTOR: Rodina, A. A., Doronicheva, N. I.; Il'in, N. S.; Khromchenko, Ye. P.

38

B

ORG: none

TITLE: Device for the fine purification of hydrogen.<sup>27</sup> Class 12,  
No. 177414. [announced by the State Scientific Research and Planning  
Institute for the Rear-Metal Industry (Gosudarstvennyy nauchno-  
issledovatel'skiy i proyektnyy institut redkometallicheskoy  
promyshlennosti)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,  
no. 1, 1966, 23

TOPIC TAGS: hydrogen, hydrogen purification, hydrogen filter

ABSTRACT: An Author Certificate has been issued describing a hydrogen-refining purification device containing a filter diaphragm made of metals or alloys possessing selective penetrability for hydrogen.<sup>28</sup> To prevent the penetration of impurities from technical-grade hydrogen into pure hydrogen through leaks in the filter diaphragm and to make possible the rapid detection of such impurities, the filter diaphragm is built into an air-tight housing maintained under vacuum (see Fig. 1).  
2

Card 1/2

UDC: 66.067.23 - 661.965

L 24521-66

ACC NR: AP6005281

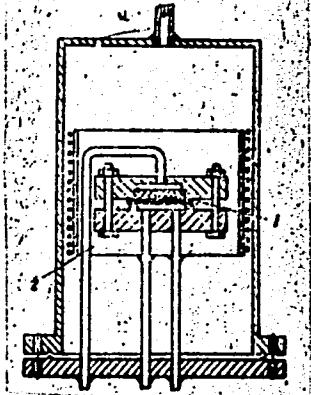


Fig. 1. Device for fine purification of hydrogen. 1 - filter diaphragm; 2 - air-tight housing.

SUB CODE: 13/

SUBM DATE: 11Mar64/

Card 2/2 BLG

RODINA, A.I., Cand. Bio Sci--(diss) "Biogenesis of steroid hormones  
of the adrenal cortex under conditions of Vitamin "C" insufficiency."  
Mos, 1953. 18 pp (Acad Med Sci USSR. Inst of Biol and Med Chemistry),  
200 copies (EL,22-58,106)

USSR / Human and Animal Physiology. Internal Secretion.

T-7

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 3617

Author : Rodina, A. I.

Inst : Not given

Title : Changes in Blood Corticosteroids Level and Urinary  
17-Ketosteroids Output in Guinea Pigs Afflicted with  
Scurvy

Orig Pub : Probl. Endokrinol. i gormonoterapii, 1957, 3, № 6,  
56-64

Abstract : Keeping male guinea pigs with a weight of 260 - 380 gm  
on a C-avitaminosis diet for 18 - 19 days is not  
accompanied by changes in the urinary output of 17-  
ketosteroids. Beginning with the 20th day, the day  
on which animal weight starts decreasing, the daily  
excretion of 17-ketosteroids increases (407.6 µ, in the  
control 224.5 µ). After being on the avitaminosis-diet

Card 1/2

54

RODINA, A.G.; KUZ'MITSKAYA, N.K.

Abundance and distribution of bacterial plankton in Lake  
Ladoga. Mikrobiologiya 32 no.2:288-295 Mr-Ap '63.  
(MIRA 17:9)

1. Zoologicheskiy institut AN SSSR.

RODINA, A.G.

Distribution of Clostridium pasteurianum in bodies of water.  
Izv. AN SSSR. Ser. biol. no.5:760-768 S.O '64. (MIRA 17:9)

1. Zoologicheskiy institut AN SSSR, Leningrad.

RODINA, A. G.

"Bacteria as Food for Fresh Water Mollusca", Mikrobiol., 17, No. 3, 1948.

Hydrobiological Sec., Zool. Inst., Acad. Sci, USSR, Leningrad, -1947.

RODINA, A. G.

PA 28/49T101

USSR/Medicine - Diet and Dietetics      Sep/Oct 48  
Medicine - Biology

"Dissolved Organic Matter as Food for Cladocera," A. G.  
Rodina, Hydrobiol Sec, Zool Inst, Acad Sci USSR, 6 pp

"Zool Zhur" Vol XXVII, No 5

Describes results of experiments to determine feeding  
habits of the Daphnia magna. Pays particular  
attention to whether or not they include dissolved  
organic matter in their diet. Concludes they do, and  
that these substances are taken in through the  
intestines. However, diet composed entirely of  
dissolved organic matter is insufficient for proper  
development.

28/49T101

PA 43/43T43

RODINA, A. G.

USSR/Medicine - Seaweed  
Medicine - Fish

11 Jan 1948

"Seaweeds as Food for Cladocera," A. G. Rodina,  
Hydrobiol Soc, Zool Inst, Acad Sci USSR, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 2

Cladocera is one of most important zooplankton foods  
for fry and even adult fish. Thus author discusses  
all nutritive factors of Cladocera, attempting to  
determine the nature of live feed. Determines that  
seaweed *Daphnia magna* is one of the favorite foods  
of Cladocera, and also valuable as food for bacteria.  
ia. Submitted by Academician Ye. N. Pavlovskiy,

3 Nov 1947.

43T43

RODINA, A.G.

Mos., Hydrobiological Sect., Zool. Inst., Dept. Biol. Sci., Acad. Sci., Leningrad,

-1947 c-49-,

"Dissolved Organic Matter as Food for Cladocera," Zool. Zhur., 27, No. 5, 1948;

"Seaweeds as Food for Cladocera," Dok. Akad. Nauk SSSR, 59, No. 2, 1948;

"Bacteria as Food for Fresh Water Mollusks," Mikrobiol., 17, No. 3, 1948;

"The Role of Bacteria in the Nutrition of the Larvae of Tendipides," Dok. AN, 67, No. 6, 1949;

"Bacteria as Food for Water Life," Priroda, No. 10, 1949.

RODINA, A.G.

"Bacteria as Food for Water Life," Priroda, No. 10, 1949.

RODINA, A. G.

"The Role of Bacteria in the Nutrition of the Larvae of Tendipedides," Dok AN,  
67, No. 6, 1949. Hydrobiological Dept. Zool. Inst.; Acad. Sci., cl949-.

ROGINSKAYA, A. G.

"The Microbiological Study of Reservoirs, Moscow/Leningrad, 1950, 68 pp.

RODINA, A.G.

Institute of Zoology, USSR Academy of Sciences, Leningrad.  
Distribution of yeast and yeast-like fungi in lakes.  
SC: MIKROBICLCCIA, Vol. 19, No. 1, Jan/Feb 50.

RODINA, A.G.

Role of individual groups of bacteria in the productivity of bodies  
of water. Trudy probli tem.sev.no.1:23-33 '51. (MLRA 9:7)  
(Bacteria) (Fresh-water biology)

RODINA, A. G.

"The Microbiological Study of Reservoirs, Moscow/Leningrad, 1950  
Mikrobiologiya, Vol. 20, No. 5, 1951

RODINA, A. G.

Fresh-Water Biology

Dynamics of bacterial biomass in the utilization of green fertilizer in fish ponds. Dokl. AN SSSR, 84, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED

RODINA, A.G.

Microbiological study of sapropelic deposits. Metod.izuch.  
sapr.otl. no.1:143-175 '53. (MLRA 10:2)

1. Zoologicheskiy institut Akademii nauk SSSR.  
(Sapropels)

RODINA, A. V.

Fish Ponds

Development of iron bacteria during fertilization of fish ponds with green vegetation.  
Mikrobiologiya 22 No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

RODINA, A.G.

Pending problems of hydromicrobiology in the sphere of increasing productivity of fish ponds. Trudy probl. i tem. soveshch. no.2:  
95-101 '54. (MIRA 8:5)  
(Fish ponds)

RODINA, A.G.

Bacteria in the productivity of the rocky littoral zone of Lake  
Baikal. Trudy probl. i tem. soveshch. no.2:172-201 '54. (MIRA 8:5)  
(Baikal, Lake--Microorganisme)(Baikal, Lake--Beaches)

USSR/Biology

Rodina, A. G.

Card 1/1

Author : Rodina, A. G.

Title : News Section: Academician Ye. N. Pavlovskiy. On his 70th birthday and 45th year of scientific, pedagogic, and public activity

Periodical : Mikrobiologiya, 23, 390-392, May/Jun 1954

Abstract : On March 5, 1954, his 70th birthday, Yevgeniy Nikanorovich Pavlovskiy, outstanding Soviet scholar, social activist, twice winner of the Stalin Prize, Member of the Academy of Sciences USSR, and Lieutenant-General in the Medical Service, was again awarded the Order of Lenin for his meritorious service to science in the USSR. A short biography which mentions his affiliations, achievements, and published works is given.

Institution : --

Submitted : --

USSR/Biology - Pisciculture

FD-1417

Card 1/1 : Pub. 73 - 6/11

Author : Rodina, A. G.

Title : The action of plant fertilizer on the nitrogen-fixation process and the results of using nitrogen forming substances in fish-breeding ponds

Periodical : Mikrobiologiya, 23, 6, 684-692, Nov-Dec 1954

Abstract : A detailed investigation was made of the effect of adding green plant fertilizers to fish-breeding ponds in order to increase the nitrogen content of the water. The results of the investigation are presented on a chart and two graphs. 17 Soviet references and one non-Soviet reference are cited.

Institution : Zoological Institute, Academy of Sciences USSR

Submitted : February 24, 1954

RODINA, A. G.

USSR/Biology - Zoology

Card 1/1 : Pub. 22 - 35/41

Authors : Rodina, A. G., and Troshin, A. S.

Title : Use of marked atoms in studying the feeding of water animals

Periodical : Dok. AN SSSR 98/2, 297-300, Sep 11, 1954

Abstract : A method for determining the degree of utilization, by water animals, of one and the same element from an aqueous medium and from prepared feed and the rate of combining this element with the body tissues of the animals, is described. Five references: 4-USSR and 1-USA (1940-1950). Tables; graphs; illustrations.

Institution : Academy of Sciences USSR, Zoological Institute

Presented by : Academician E. N. Pavlovskiy, May 22, 1954

RODINA, A. G.

USSR/ Biology - Hydrobiology

Card 1/1 : Pub. 22 - 42/49

Authors : Rodina, A. G., and Troshin, A. S.

Title : Behavior of phosphorus brought into pond water with plant fertilizers

Periodical : Dok. AN SSSR 98/4, 665-668, Oct. 1, 1954

Abstract : Data on the behavior of P brought into pond water together with plant fertilizer are presented. Two references: 1-USSR and 1-USA (1950 and 1952). Graphs; illustrations.

Institution : Academy of Sciences USSR, Zoological Institute

Presented by : Academician E. N. Pavlovskiy, July 16, 1954

Rodina, A. G.

USSR/Microbiology. General Microbiology

F-1

Abs Jour :: Ref Zhur-Biologiya, No 1, 1957, 480

Author :: A. G. Rodina  
Inst :: Zoological Institute of the Academy of  
Sciences USSR

Title :: Distribution of Azotobacteria in the Water  
Basins of Krasnodar Kray

Orig Pub :: Tr. zool. In-ta AN SSSR, 1955, 21, 62-63

Abstract :: Azotobacter is frequently found in the  
deep water basins of Krasnodar Kray, in  
bottom deposits, and on the surfaces of  
water plants. The predominating form  
is that of Azotobacter chroococcum.  
Azotobacter agile is seldom found. In  
waters of sulfate and hydrocarbonate

Card 1/3

USSR/Microbiology. General Microbiology

F-1

Abs Jour :: Ref Zhur-Biologiya, No 1, 1957, 480

Abstract :: classes with about the same pH (7.4 to 8.8) the azotobacter develops at different degrees of mineralization and different contents of organic matter. The number of azotobacter cells increases with a rise in temperature. In water basins the azotobacter develop in the presence of a smaller content of calcium and phosphorus than in the soil (from 0.06 to 0.37%). In the soil azotobacter are found with greater frequency than in water masses. It is possible that this is due to a larger content of calcium and phosphorus in the soil. Ponds in which an intensive process of desulfatization

Card 2/3

RODINA-A,G.

*Mud* ✓ Nitrogen-fixing spirilla in water. A. G. Rodina (Zool. Inst., Acad. Sci. U.S.S.R., Leningrad). *Mikrobiologiya* 25, 145-9 (1960).—In the water supplies of Krasnodar district a new *Spirillum*, *S. asatocolligenes*, is widely distributed. It fixes atm. N and shows normal cell forms only in nonnitrogenous media. Various strains showed N-fixing capacities of 4-12 mg./g. of mannitol. The new organism resembles *S. lipoferum* but does not show the same behavior toward fats. Julian R. Smith

USSR/Microbiology - General Microbiology. Water and Air  
Microorganisms.

F

Abs Jour : Ref Zhur Biol., No 22, 1958, 99348

Author : Rodina, A.G.

Inst : Zoological Institute, AS USSR

Title : Microorganisms in Organic and Mineral Fertilization of  
Piscicultural Ponds.

Orig Pub : Tr. probl. i temnt. soveshchaniy. Zool. in-t AN SSSR,  
1957, vyp. 7, 21-30

Abstract : Results of the microbiological investigations conducted  
in the years 1951-1953 of ponds of fish farms of the  
Krasnodarskiy Kray are adduced. A connection is noted  
between the growth of the bacterial plankton and such  
abiotic factors as general mineralization, pH, and aci-  
dity of the water. Introduction of vegetable

Card 1/2

- 46 -

RODINA, A.G.

Possibility of using radioactive tracers in solving the problem  
of food selectivity in aquatic animals [with summary in English].  
Zool.zhur. 36 no.3:337-343 Mr. '57. (MLRA 10:5)

1. Zoologicheskiy institut AN SSSR.  
(Radioactive tracers)  
(Fresh-water biology)

RODINA, Antonina Gavrilovna; RAZUMOVSKAYA, Z.G., prof., otyv. red.; STRELKOV,  
A.A., red. izd-va.; TVRVETINOVA, K.S., tekhn. red.

[Micro-organisms and the increase in production of fish in ponds]  
Mikroorganizmy i povyshenie ryboproduktivnosti prudov. Moskva,  
Izd-vo Akad. nauk SSSR, 1958. 170 p. (MIRA 11:12)  
(Water--Bacteriology)  
(Fish ponds)

RODINA, A. G.

"Microbiological Methods and Application to Hydrobiology"

Report presented at the 4th Intl. Limnological Congress, Vienna, August 1959.

RODINA, A.G.

Microbiological studies of ponds of the Vimba-Bleak Hatchery  
(work for 1951-1953). Trudy Zool.inst. 26:129-219 '59.  
(MIRA 13:5)

(PSEKUPS VALLEY--FISH PONDS--BACTERIOLOGY)

RODINA, A.G.

Bacterial content of detritus in lakes of the Ladoga region.  
Mikrobiologija 32 no.6:1031-1037 N-D '63  
(MIRA 181)

1. Zoologicheskiy institut AN SSSR.

RODINA, A.G.

Sensitivity of Streptococcus viridans isolated from patients with  
subacute septic endocarditis to various antibiotics. Trudy Sar.  
gos. med. inst. 26:271-277 '59. (MIRA 14:2)

1. Iz kafedry mikrobiologii (zav. - prof. S.I. Sherishorina) i  
fakul'tetskoy terapevticheskoy kliniki (zav. prof. Ye.Yu.  
Makhlin) Saratovskogo meditsinskogo instituta.  
(STREPTOCOCCUS VIRIDANS) (ANTIBIOTICS)  
(ENDOCARDITIS)

RODINA, A.G.

Microbiological studies of the Kuban and Psekups Rivers.  
Trudy Zool.inst. 26:414-421 '59. (MIRA 13:5)  
(KUBAN RIVER--BACTERIOLOGY)  
(PSEKUPS RIVER--BACTERIOLOGY)

RODINA, A. G.; KUTIKOVA, L.A.

Observations of Daphnia Basins at the Vimba-Bleak Hatchery.  
Trudy Zool.inst. 26:427-438 '59. (MIRA 13:5)  
(Psekups Valley--Daphnia)

RODINA, A.G.

Change of bacterial forms in fish ponds following application of  
different fertilizers. Mikrobiologiya 28 no.3:419-426 My-Je '59.  
(MIRA 13:3)

1. Zoologicheskiy institut AN SSSR, Leningrad.  
(FISH PONDS--BACTERIOLOGY) (FERTILIZERS AND MANURES)

RODINA, A.G.

Nitrifying bacteria in fish ponds. Mikrobiologija 28 no.6:921-926  
M-D '59. (MIRA 13:4)

1. Zoologicheskiy institut Akademii nauk SSSR.  
(WATER--BACTERIOLOGY)  
(BACTERIA, NITRIFYING)

17 (4), 30 (1)

AUTHOR: Rodina, A. G.

SOV/20-127-6-40/51

TITLE:

Bacterioplankton of the Zones Overgrown With Plants - as a Food Basis for Water Invertebrates

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 6, pp 1286 - 1289  
(USSR)

ABSTRACT:

The stock of water plants in lakes constitutes highly productive zones in which large quantities of various invertebrates are living; the latter again are eaten by fish. Particularly young fish, but also grown-ups, like to go there for food. The factors influencing the high productivity of the zones overgrown are: a) an increased content of organic substances and detritus, b) favorable temperature- and oxygen conditions, c) reduced wave action. In addition to this (data on 9 lakes in the Ladoga region): d) abundance of bacterial food in these biotopes which is accessible to invertebrates. Quite a distinct general rule becomes evident from samples taken, at the same time, from open places of the lake, and from stocks of plants of various species (horsetails (*equisetum*), reed (*phragmites*), reed mace (*typha*), knot grass (*polygonum*)): in some lakes, the bacterioplankton in plant stocks was twice, in others 3 times

Card 1/3

Bacterioplankton of the Zones Overgrown With Plants - SOV/20-127-6-40/51  
as a Food Basis for Water Invertebrates

(sometimes less), as numerous than in open places (Table 1, Fig 1). The author concludes from her investigations that there is a direct proportional dependence between the content of organic substances and the development of bacterioplankton. The straight lines found (Fig 1) confirm this clearly. A manifoldness of shapes is characteristic of the bacterioplankton of the plant stocks (Fig 2). This figure shows that also the stock of groups and species of bacterioplankton is much more abundant in the plant stocks. Various kinds of yeast, Azotobacter (Refs 1,2), various colorless and purple sulphur bacteria, a great number of various bacilli, cocci, rod shaped and other bacteria developed here. A mass development of sulphur bacteria shows that in plant stocks an intensive protein synthesis is brought about by these autotrophic bacteria. Although the extent of protein production cannot yet be determined, the role of the sulphur bacteria according to their biomass (14 mg/l) must be considerable. The biomass of the bacterioplankton is here by 4-15 fold larger than in open places of the lake, because: a) the coccus and bacillus cells are larger, and b) the large cells (kinds of yeast, Azotobacter,

Card 2/3

Bacterioplankton of the Zones Overgrown With Plants - SOV/20-127-6-40/51  
as a Food Basis for Water Invertebrates

sulphur bacteria) appear in abundance. It can be said from experience that the predominant majority of bacterioplankton lives in microcolonies. They consist of one or several dozens of cells, but can also attain several hundreds and a size of 100  $\mu$ . The formation of colonies renders the nutrition of water organisms easier. The high nutritive value of Azobacter, yeasts and several kinds of bacillus had been proved previously (Refs 3-5) by the author. Digestibility of these organisms is perfect. There are huge quantities of bacteria in the bottom which is enriched by vegetable detritus. They are one of the principal sources of nourishment for the bottom fauna. There are 2 figures, 1 table, and 6 Soviet references.

ASSOCIATION: Zoologicheskiy institut Akademii nauk SSSR (Zoological Institute of the Academy of Sciences, USSR)  
PRESENTED: April 30, 1959, by Ye. N. Pavlovskiy, Academician  
SUBMITTED: April 20, 1959

Card 3/3

RODINA, A.G.

Yeast fungi in fish ponds and their nutritive significance. Izv.  
AN SSSR. Ser. biol. no.5:661-669 8-0 '60. (MIRA 13:9)

1. Zoological Institute, Academy of Sciences of the U.S.S.R.,  
Leningrad.  
(YEAST) (FISH PONDS)

RODINA, A.G.

Distribution of micro-organisms in the bottoms of water basins. Dokl.AN SSSR 133 no.6:1444-1447 Ag '60.  
(MIRA 13:8)

1. Zoologicheskiy institut Akademii nauk SSSR. Predstavлено  
акад. Ye.N.Pavlovskim.  
(Fresh-water biology)

Among the titles and authors of papers and other expected participants at the 15th International Conference of Limnology in Madison, Wisconsin, 20-25 Aug 82, are the following:

- USSR
- GAVRILYAKA, N. S., Kaliningrad College of Fishery, Kaliningrad - "The role of high aquatic plants in trophic cycles of fresh water bodies"
  - GORBUCHOV, K. V., Astrakhan State Reservation, Astrakhan - "The role of cellulose bacteria in biological productivity of water bodies"
  - IVLEV, V. S., Sevastopol Biological Station, Institute A. O. Kovalevsky, Sevastopol - "The transformation of energy on the highest trophic levels of a production process and "energetics of fish production" (Review paper, Session II)
  - KRASNOV, P. V., Khabarovsk Department, Pacific Institute of Marine Fishery and Oceanography - "On the connection of flowing down of young fish of red salmon with the condition in a lake"
  - KRETSUL', Vsevolod Nataleyevich, Khabarova Department, Pacific Institute of Marine Fishery and Oceanography - "The influence of disease or addition of red salmon producers on the spawners' regime of spawning lakes"
  - KRUGLOV, Sergey Ivanovich, Institute of Microbiology, Academy of Sciences USSR - "The role of microorganisms in the destruction of organic substances in a water body and, "decomposition-processes, results and biological significance, microbiological (Plenary Session IV)
  - KHEDERIAN, Tat'yana 'Inr., Hydrobiological Station, Armenia, Armenian SSR - (has accepted invitation but has not submitted paper)
  - PAKHOMOVA, V. Ya., Zoological Institute, Academy of Sciences USSR - "On the evolution of tentacleless larvae (Chironomidae) in connection with the conditions of existence"
  - RASPOPOV, I. M., Laboratory of Limnology, Academy of Sciences USSR - "On the din content and directions of hydrobiology in the Soviet Union"
  - RODIN, A. G., Zoological Institute, Academy of Sciences USSR - "Microbiology of the detritus of lakes"
  - ROSENBOG, L. L., Institute of Geography, Academy of Sciences USSR, and GLAZIY, Grigory I., Siberian Department of the Academy of Sciences
  - SEGOLEV, Nikolay Nataleyevich, Institute of Biology of Water Reservoirs, Academy of Sciences USSR - "The ice regime of the phytoplactic Plitlopoda in connection with the estimation of the role of the littoral zones of the life of Volga water reservoirs"
  - SOKOLOV, O. N., Limnological Institute, Siberian Department of the Academy of Sciences USSR - "The Lake Baykal"
  - ZAKHAROV, Nikolay Nataleyevich, Institute of Biology of Water Reservoirs, Academy of Sciences USSR - "The ice regime of the Baykal Lake"
  - STROGOV, N. S., Biological Faculty, Moscow University, Moscow - "Influences of sulfur concentrations of pollacious matter on hydrozooplankton", and "On the question of the influence of sewage on water"
  - VOLEVITZ, K. K., Limnological Institute, Siberian Department, Academy of Sciences USSR - "Burm - elements in the Baykal Lake"
  - ZAMORESAYA, Aleksandra Ivanovna, Zoological Institute, Academy of Sciences USSR - "The fauna of bottom water bodies of Middle Asia"
  - ZHDAN, V. I., Zoological Institute, Academy of Sciences USSR - "Migration of the indicative phosphorus at fertilization of water body"
  - ZHURAVLEV, P. A., Dnepropetrovsk Scientific Institute of Hydrobiology of the State University, Ukrainian SSR - "Acclimation of fishes' food organisms from the fauna of estuary complex (of the Caspian relief type) in water reservoirs of the Ukraine and the Crimea"

RODINA, A.G.

Distribution of sulfur bacteria in fresh waters and their place  
in Kolkvitz and Marsson's system of indicator organisms. Mikrobiologiya  
30 no.6:1080-1083 N-D '61. (MIRA 14:12)

1. Zoologicheskiy institut AN SSSR, Leningrad.  
(WATER—MICROBIOLOGY) (BACTERIA, SULFUR)